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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,958	12/02/2003	Mark A. Woods	030048120US	2889

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EXAMINER

KOEHLER, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 08/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/725,958	<b>Applicant(s)</b> WOODS ET AL.	
	<b>Examiner</b> Christopher M. Koehler	<b>Art Unit</b> 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on RCE filed 7/27/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-12, 14, 15, 17-23, 25-27, 29-32, 44-46, 48-50, 52 and 53 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-12, 14, 15, 17-23, 25-27, 29-32, 44-46, 48-50, 52 and 53 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/27/2006 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-3, 5-12, 14-15, 17-23, 25-27, 29-32, 44-46, 48-50 and 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schultz (US Patent No. 6,665,922) in view of Stoewer et al (USPGPUB 2002/0114680).

#### **Claim 1:**

Schultz teaches a swage fastener for use in the aerospace industry and a method for its use comprising, inserting an elongated member (20) through a first hole in a first component and a second hole in a second component with a head of the elongated member positioned proximate the first component (figure 2), passing a collar (46) axially over a helical groove (40) of the elongated member without rotating the

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collar or the elongated member (clearance fit) prior to swaging the collar wherein the collar has a barrel having a generally constant inner diameter and a generally constant outer diameter (figure 2), swaging the collar to the helical groove of the elongated member by engaging the generally constant outer diameter of the barrel with an installation tool with the first and second components positioned between the head and the collar and with the collar positioned between the second component and a removable portion of the elongated member and removing the removable portion (col. 8, line 40- col. 9, line 15).

The collar of Schultz does not however have a projecting flange. Collars of this type are however widely used in the art as can be seen in Fullbright et al (US Patent No. 5,315,755) and many of the other cited references attached. The use of a projecting flange would have been obvious to one of ordinary skill in the art at the time of invention because it would provide a more stable platform for the collar when applied.

Schultz is silent as to the application of a liquid to the elongated member before swaging and swaging without removing the liquid, however, being that the elongated member and collar are of the same structure as applicants claimed invention the elongated member of Schultz is inherently capable of having a sealant thereon while the collar is swaged thereto. Furthermore, Stoewer teaches a swage fastener for use in the aerospace industry and a method for its use comprising a substantially similar structure to that of Schultz. Stoewer also teaches that it is common in the art to have a sealant smeared onto the contacting surface between the elongated member and the collar when inserting the elongated member into a hole in the panel elements. Stoewer

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teaches a knurled surface onto which the collar is swaged comprising spiral grooves that extend helically in the axial direction (paragraph 13, last sentence). As defined by the American Heritage Dictionary<sup>1</sup> a knurl is one of a series of small ridges or grooves on the surface of a metal object. By this definition the threads of Schultz can also be considered knurls. It would have been obvious to one of ordinary skill in the art at the time of invention to apply a sealant to the elongated member of Schultz before and without removing prior to swaging as taught by Stoewer since it is time consuming and labor intensive to remove sealant from elongated members and the sealant provides a seal and an adhesive bond between the collar and the elongated member (abstract, Stoewer).

Claim 2:

Schultz teaches that removal of the removable portion takes place after swaging the collar.

Claim 3:

Schultz teaches that the elongated member is sized to be inserted through the first hole and the second hole and therefore the elongated member must be of a smaller diameter than the holes.

Claim 5:

Schultz teaches that the removable portion is engaged by a first portion of the tool and that the collar is engaged by another portion of the tool and that they are moved axially relative one another (col. 8, line 40- col. 9, line 15).

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<sup>1</sup> The American Heritage Dictionary of the English Language, Fourth Edition Copyright 2004, 2000 by

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Claim 6:

Schultz teaches that these fasteners are typically used in aerospace applications (col. 1, line 14).

Claim 7:

Schultz teaches that the removable portion is pulled along the axis of the elongated fastener.

Claim 8:

Schultz teaches that it is well known within the art to insert the elongated member with an interference fit with at least one of the components to hold the components together prior to the actual swaging (col. 1, lines 51-65).

Claim 9:

Schultz teaches that it is well known within the art to insert the elongated member with a clearance fit (col. 1, line 66-col. 2, line 13).

Claim 10:

Schultz teaches that the head of the elongated member bearing against the first component (figure 2).

Claim 11:

Schultz teaches swaging the collar to bear against the second component (figure 2).

Claim 12:

Schultz teaches that swaging the collar includes applying an axial force and a radially inward force to the collar without applying torque (col. 8, line 40- col. 9, line 15).

Claims 14 and 15:

Schultz teaches a swage fastener for use in the aerospace industry and a method for its use comprising, inserting an elongated member (20) through a first hole in a first component and a second hole in a second component with a head of the elongated member positioned proximate the first component (figure 2), the elongated member is sized to be inserted through the first hole and the second hole and therefore the elongated member must be of a smaller diameter than the holes, passing a collar (46) axially over a helical groove (40) of the elongated member without rotating the collar or the elongated member (clearance fit) prior to swaging the collar wherein the collar has a barrel having a generally constant inner diameter and a generally constant outer diameter (figure 2), swaging the collar to the helical groove of the elongated member by engaging the generally constant outer diameter of the barrel with an installation tool, an example of such a tool can also be seen in Stencil (USPN 3,792,933), with the first and second components positioned between the head and the collar and with the collar positioned between the second component and a removable portion of the elongated member and removing the removable portion (col. 8, line 40- col. 9, line 15).

The collar of Schultz does not however have a projecting flange. Collars of this type are however widely used in the art as can be seen in Fullbright et al (US Patent No. 5,315,755) and many of the other cited references attached. The use of a

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projecting flange would have been obvious to one of ordinary skill in the art at the time of invention because it would provide a more stable platform for the collar when applied.

Schultz is silent as to the application of a liquid to the elongated member before swaging and swaging without removing the liquid, however, being that the elongated member and collar are of the same structure as applicants claimed invention the elongated member of Schultz is inherently capable of having a sealant thereon while the collar is swaged thereto. Furthermore, Stoewer teaches a swage fastener for use in the aerospace industry and a method for its use comprising a substantially similar structure to that of Schultz. Stoewer also teaches that it is common in the art to have a sealant smeared onto the contacting surface between the elongated member and the collar when inserting the elongated member into a hole in the panel elements. Stoewer teaches a knurled surface onto which the collar is swaged comprising spiral grooves that extend helically in the axial direction (paragraph 13, last sentence). As defined by the American Heritage Dictionary<sup>2</sup> a knurl is one of a series of small ridges or grooves on the surface of a metal object. By this definition the threads of Schultz can also be considered knurls. It would have been obvious to one of ordinary skill in the art at the time of invention to apply a sealant to the elongated member of Schultz before and without removing prior to swaging as taught by Stoewer since it is time consuming and labor intensive to remove sealant from elongated members and the sealant provides a seal and an adhesive bond between the collar and the elongated member (abstract, Stoewer).



Claim 17:

Schultz teaches that the tool engages the tool engagement portion and pulls the fastener distally in tension and that while this occurs another portion of the tool moving axially relative thereto swages the collar to the thread (col. 8, line 40- col. 9, line 15).

Claim 18:

Schultz teaches that fasteners of this type are for use in the aerospace industry and it would therefore be obvious to use such fasteners to attach aircraft components.

Claim 19:

Schultz teaches that the removable portion is pulled along the axis of the elongated fastener.

Claim 20:

Schultz teaches that swaging the collar includes applying an axial force and a radially inward force to the collar without applying torque (col. 8, line 40- col. 9, line 15).

Claims 21 and 23:

Schultz teaches a swage fastener for use in the aerospace industry and a method for its use comprising, inserting an elongated member (20) through a first hole in a first component and a second hole in a second component with a head of the elongated member positioned proximate the first component (figure 2), the elongated member is sized to be inserted through the first hole and the second hole and therefore the elongated member must be of a smaller diameter than the holes, passing a collar (46) axially over a helical groove (40) of the elongated member without rotating the

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<sup>2</sup> The American Heritage Dictionary of the English Language, Fourth Edition Copyright 2004, 2000 by

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collar or the elongated member (clearance fit) prior to swaging the collar wherein the collar has a barrel having a generally constant inner diameter and a generally constant outer diameter (figure 2), swaging the collar to the helical groove of the elongated member by engaging the generally constant outer diameter of the barrel with an installation tool, an example of such a tool can also be seen in Stencel, with the first and second components positioned between the head and the collar and with the collar positioned between the second component and a removable portion of the elongated member and removing the removable portion through axial tension (col. 8, line 40- col. 9, line 15).

The collar of Schultz does not however have a projecting flange. Collars of this type are however widely used in the art as can be seen in Fullbright et al (US Patent No. 5,315,755) and many of the other cited references attached. The use of a projecting flange would have been obvious to one of ordinary skill in the art at the time of invention because it would provide a more stable platform for the collar when applied.

Schultz is silent as to the application of a liquid to the elongated member before swaging and swaging without removing the liquid, however, being that the elongated member and collar are of the same structure as applicants claimed invention the elongated member of Schultz is inherently capable of having a sealant thereon while the collar is swaged thereto. Furthermore, Stoewer teaches a swage fastener for use in the aerospace industry and a method for its use comprising a substantially similar structure to that of Schultz. Stoewer also teaches that it is common in the art to have a sealant

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smeared onto the contacting surface between the elongated member and the collar when inserting the elongated member into a hole in the panel elements. Stoewer teaches a knurled surface onto which the collar is swaged comprising spiral grooves that extend helically in the axial direction (paragraph 13, last sentence). As defined by the American Heritage Dictionary<sup>3</sup> a knurl is one of a series of small ridges or grooves on the surface of a metal object. By this definition the threads of Schultz can also be considered knurls. It would have been obvious to one of ordinary skill in the art at the time of invention to apply a sealant to the elongated member of Schultz before and without removing prior to swaging as taught by Stoewer since it is time consuming and labor intensive to remove sealant from elongated members and the sealant provides a seal and an adhesive bond between the collar and the elongated member (abstract, Stoewer).

Claim 22:

Schultz teaches that the tool engages the tool engagement portion and pulls the fastener distally in tension and that while this occurs another portion of the tool moving axially relative thereto swages the collar to the thread (col. 8, line 40- col. 9, line 15).

Claim 25:

Schultz teaches that swaging the collar includes applying an axial force and a radially inward force to the collar without applying torque (col. 8, line 40- col. 9, line 15).

Claim 26:

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<sup>3</sup> The American Heritage Dictionary of the English Language, Fourth Edition Copyright 2004, 2000 by Houghton Mifflin Company.

Schultz teaches a swage fastener for use in the aerospace industry and a method for its use comprising, inserting an elongated member (20) through a first hole in a first component and a second hole in a second component with a head of the elongated member positioned proximate the first component (figure 2), passing a collar (46) axially over a helical groove (40) of the elongated member without rotating the collar or the elongated member (clearance fit) prior to swaging the collar wherein the collar has a barrel having a generally constant inner diameter and a generally constant outer diameter (figure 2), swaging the collar to the helical groove of the elongated member by engaging the generally constant outer diameter of the barrel with an installation tool with the first and second components positioned between the head and the collar and with the collar positioned between the second component and a removable portion of the elongated member and removing the removable portion (col. 8, line 40- col. 9, line 15).

The collar of Schultz does not however have a projecting flange. Collars of this type are however widely used in the art as can be seen in Fullbright et al (US Patent No. 5,315,755) and many of the other cited references attached. The use of a projecting flange would have been obvious to one of ordinary skill in the art at the time of invention because it would provide a more stable platform for the collar when applied.

Schultz is silent as to the application of a liquid to the elongated member before swaging and swaging without removing the liquid, however, being that the elongated member and collar are of the same structure as applicants claimed invention the elongated member of Schultz is inherently capable of having a sealant thereon while the

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collar is swaged thereto. Furthermore, Stoewer teaches a swage fastener for use in the aerospace industry and a method for its use comprising a substantially similar structure to that of Schultz. Stoewer also teaches that it is common in the art to have a sealant smeared onto the contacting surface between the elongated member and the collar when inserting the elongated member into a hole in the panel elements. Stoewer teaches a knurled surface onto which the collar is swaged comprising spiral grooves that extend helically in the axial direction (paragraph 13, last sentence). As defined by the American Heritage Dictionary<sup>4</sup> a knurl is one of a series of small ridges or grooves on the surface of a metal object. By this definition the threads of Schultz can also be considered knurls. It would have been obvious to one of ordinary skill in the art at the time of invention to apply a sealant to the elongated member of Schultz before and without removing prior to swaging as taught by Stoewer since it is time consuming and labor intensive to remove sealant from elongated members and the sealant provides a seal and an adhesive bond between the collar and the elongated member (abstract, Stoewer).

Claim 27:

Schultz teaches that removal of the removable portion takes place after swaging the collar.

Claim 29:

Schultz teaches that the removable portion is engaged by a first portion of the tool and that the collar is engaged by another portion of the tool and that they are

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<sup>4</sup> The American Heritage Dictionary of the English Language, Fourth Edition Copyright 2004, 2000 by

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moved axially relative one another (col. 8, line 40- col. 9, line 15) an example of such a tool can also be seen in Stencel (US Patent No. 3,792,933).

Claim 30:

Schultz teaches that the removable portion is pulled along the axis of the elongated fastener.

Claim 31:

Schultz teaches that it is well known within the art to insert the elongated member with a clearance fit (col. 1, line 66-col. 2, line 13).

Claim 32:

Schultz teaches that swaging the collar includes applying an axial force and a radially inward force to the collar without applying torque (col. 8, line 40- col. 9, line 15).

Claim 44:

Schultz teaches a swage fastener for use in the aerospace industry and a method for its use comprising, a first component having a first aperture and a second component having a second aperture, an elongated member having a head portion positioned proximate the first component, the member having a shaft portion extending through the apertures having a helical thread and a frangible portion to be broken under axial force, a collar having an aperture into which the elongated member is received further having a barrel having a generally constant inner diameter and a generally constant outer diameter, passing a collar axially over a helical groove of the elongated member without rotating the collar or the elongated member (clearance fit) and swaging

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the collar to the helical groove of the elongated member by engaging the generally constant outer diameter of the barrel with an installation tool, an example of such a tool can also be seen in Stencel, with the first and second components positioned between the head and the collar and with the collar positioned between the second component and a removable portion of the elongated member and removing the removable portion (col. 8, line 40- col. 9, line 15), and that the removal is done under a predetermined axial load.

The collar of Schultz does not however have a projecting flange. Collars of this type are however widely used in the art as can be seen in Fullbright et al (US Patent No. 5,315,755) and many of the other cited references attached. The use of a projecting flange would have been obvious to one of ordinary skill in the art at the time of invention because it would provide a more stable platform for the collar when applied.

Schultz is silent as to the application of a liquid to the elongated member before swaging and swaging without removing the liquid, however, being that the elongated member and collar are of the same structure as applicants claimed invention the elongated member of Schultz is inherently capable of having a sealant thereon while the collar is swaged thereto. Furthermore, Stoewer teaches a swage fastener for use in the aerospace industry and a method for its use comprising a substantially similar structure to that of Schultz. Stoewer also teaches that it is common in the art to have a sealant smeared onto the contacting surface between the elongated member and the collar when inserting the elongated member into a hole in the panel elements. Stoewer teaches a knurled surface onto which the collar is swaged comprising spiral grooves

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that extend helically in the axial direction (paragraph 13, last sentence). As defined by the American Heritage Dictionary<sup>5</sup> a knurl is one of a series of small ridges or grooves on the surface of a metal object. By this definition the threads of Schultz can also be considered knurls. It would have been obvious to one of ordinary skill in the art at the time of invention to apply a sealant to the elongated member of Schultz before and without removing prior to swaging as taught by Stoewer since it is time consuming and labor intensive to remove sealant from elongated members and the sealant provides a seal and an adhesive bond between the collar and the elongated member (abstract, Stoewer).

Claims 45 and 46:

Schultz teaches that fasteners of this type are for use in the aerospace industry and it would therefore be obvious to use such fasteners to attach aircraft components.

Claim 48:

Schultz teaches a swage fastener for use in the aerospace industry and a method for its use comprising, inserting an elongated member (20) through a first hole in a first component and a second hole in a second component with a head of the elongated member positioned proximate the first component (figure 2), passing a collar (46) axially over a helical groove (40) of the elongated member without rotating the collar or the elongated member (clearance fit) prior to swaging the collar wherein the collar has a barrel having a generally constant inner diameter and a generally constant outer diameter (figure 2), swaging the collar to the helical groove of the elongated

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<sup>5</sup> The American Heritage Dictionary of the English Language, Fourth Edition Copyright 2004, 2000 by



member by engaging the generally constant outer diameter of the barrel with an installation tool with the first and second components positioned between the head and the collar and with the collar positioned between the second component and a removable portion of the elongated member and removing the removable portion (col. 8, line 40- col. 9, line 15), and that the removal is done under a predetermined axial load.

The collar of Schultz does not however have a projecting flange. Collars of this type are however widely used in the art as can be seen in Fullbright et al (US Patent No. 5,315,755) and many of the other cited references attached. The use of a projecting flange would have been obvious to one of ordinary skill in the art at the time of invention because it would provide a more stable platform for the collar when applied.

Schultz is silent as to the application of a liquid to the elongated member before swaging and swaging without removing the liquid, however, being that the elongated member and collar are of the same structure as applicants claimed invention the elongated member of Schultz is inherently capable of having a sealant thereon while the collar is swaged thereto. Furthermore, Stoewer teaches a swage fastener for use in the aerospace industry and a method for its use comprising a substantially similar structure to that of Schultz. Stoewer also teaches that it is common in the art to have a sealant smeared onto the contacting surface between the elongated member and the collar when inserting the elongated member into a hole in the panel elements. Stoewer teaches a knurled surface onto which the collar is swaged comprising spiral grooves that extend helically in the axial direction (paragraph 13, last sentence). As defined by

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the American Heritage Dictionary<sup>6</sup> a knurl is one of a series of small ridges or grooves on the surface of a metal object. By this definition the threads of Schultz can also be considered knurls. It would have been obvious to one of ordinary skill in the art at the time of invention to apply a sealant to the elongated member of Schultz before and without removing prior to swaging as taught by Stoewer since it is time consuming and labor intensive to remove sealant from elongated members and the sealant provides a seal and an adhesive bond between the collar and the elongated member (abstract, Stoewer).

Claim 49:

Schultz teaches that removal of the removable portion takes place after swaging the collar.

Claim 50:

Schultz teaches that the elongated member is sized to be inserted through the first hole and the second hole and therefore the elongated member must be of a smaller diameter than the holes.

Claim 52:

Schultz teaches that fasteners of this type are for use in the aerospace industry and it would therefore be obvious to use such fasteners to attach aircraft components.

Claim 53:

Schultz teaches that the removable portion is pulled along the axis of the elongated fastener.

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<sup>6</sup> The American Heritage Dictionary of the English Language, Fourth Edition Copyright 2004, 2000 by

***Response to Arguments***

4. Applicant's arguments with respect to claims 1-3, 5-12, 14-15, 17-23, 25-27, 29-32, 44-46, 48-50 and 52-53 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher M. Koehler whose telephone number is (571) 272-3560. The examiner can normally be reached on Mon.-Fri. 7:30A-4:00P.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMK



DAVID P. BRYANT  
SUPERVISORY PATENT EXAMINER

8/29/06